mixer and the rate at which crumb rubber is fed to the same mixer so as to maintain a constant asphalt rubber ratio in the produced asphalt.

The Office Action points to Section 36 as anticipating the claims. Section 36 is as follows:

[0026] A computer program (100) is recorded on any of a number of computer readable media, and includes program elements as illustrated in the flow chart of FIG. 2. The computer program (100) controls the mechanical devices for mixing asphalt components, and producing asphalt with desired ratios of the asphalt components. The computer program (100) begins with a batch configuration step (102). This is an optional step that is designed to gather the data necessary to start a production of asphalt. The parameters of prior production may be saved and used for the current batch if desired. If parameters are necessary or desired, the user enters the desired amount of asphalt mix components (the amount may be entered in various ways such as by ratio, percentage, weight, and mass, and in various units), as well as air blast intervals, and the final desired amount of asphalt to be produced. Generally, the ratio of asphalt mix components will be entered in tons per hour, and the final amount will be in tons. However, any units that provide the necessary information to the program (100), such that control of the ratio may be maintained, can be used. The asphalt components may be, as described above, oil and crumb rubber. Therefore, for this step (102), the user would, typically, enter the desired amounts of oil and crumb rubber.

Applicants respectfully traverse the rejection. Cox fails to show the claimed running one or more tests on the mix design using computer controlled equipment. The Cox system runs according to parameters as disclosed in Section 28 as follows:

After pre-fill (104), blending begins as shown in step (106). During this step (106) the asphalt components, typically oil and crumb rubber, are mixed and blended together at desired, or pre-configured, amounts or ratios to produce asphalt. This task is accomplished by delivering the asphalt components at rates determined to provide the desired amounts. During the blending step (106), periodic checks are performed as shown in step (110). The mass flow meter (32), continuously monitors the amount of oil deposited into the mixing chamber (15) and the hopper scales (14A through D) periodically measure the weight of crumb rubber that has been deposited into the mixing chamber. With this information, the actual amounts of oil and crumb rubber that have been deposited into the mixing chamber (15) may be determined and compared against the preset desired amounts, and the rates at which the asphalt components, oil and rubber, are being delivered may be altered to achieve the desired blend ratio. Errors in the comparison step (110) may be reduced by employing a digital interface between the

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various measurement devices and the CPU, which helps to reduce analog/digital conversion errors.

Although Cox monitors oil and crumb rubber, Cox does not run tests on the mix design. Cox cannot be used to control the variation of voids in the solids (i.e. Aggregate Mixture) and the ratio of solids to liquid in the mix design. The real time testing feedback from gyratory compactor allows adjustments to be made to the volumetrics (i.e. solid to liquid ratio) to keep the mix design with in specifications as variations are occurring from the aggregate stockpiles. Hence, Cox cannot run tests on the mix design and this is one basis for traversing the rejection.

Moreover, Cox fails to show digitally collecting data for each test run using the computer controlled equipment.

Additionally, Cox fails to show selecting an optimum mix based on the collected test data for the above reason.

As a Section 102 rejection requires each and every limitation be present, and since at least three limitations are not shown in Cox, Cox cannot anticipate the independent claims as well as those dependent therefrom. Withdrawal of this rejection is requested.

The Section 103(a) Rejection

The Office Action also rejected claims 4-5 and 10-20 under Section 103(a) as unpatentable over Cox and Bahia et al. Bahia relates to a gyratory compactor system with computer control. As discussed above, Cox does not show running tests on the mix design. Here, Bahia shows a computer controlled gyratory compactor. However, neither Cox nor Bahia shows a system that provides running one or more tests on the mix design

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using computer controlled equipment; digitally collecting data for each run using the computer controlled equipment; and selecting an optimum mix based on the collected data.

The combination of Cox and Bahia provides for controlling the liquid mixture consistency. However, the combination does not achieve controlling the variation of voids in the solids (i.e. Aggregate Mixture) and the ratio of solids to liquid in the mix design. The real time testing feedback from gyratory compactor allows adjustments to be made to the volumetrics (i.e. solid to liquid ratio) to keep the mix design with in specifications as variations are occurring from the aggregate stockpiles. The combination of Cox and Bahia is inoperative for such mix design selection and thus the combination cannot render the claims obvious.

Applicant notes that the present rejection does not establish *prima facie* obviousness under 35 U.S.C. § 103 and M.P.E.P. §§ 2142-2143. The Examiner bears the initial burden to establish and support *prima facie* obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976). To establish *prima facie* obviousness, three basic criteria must be met. M.P.E.P. § 2142. First, the Examiner must show some suggestion or motivation, either in the Cox reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference so as to produce the claimed invention. M.P.E.P. § 2143.01; *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Secondly, the Examiner must establish that there is a reasonable expectation of success for the modification. M.P.E.P. § 2142. Thirdly, the Examiner must establish that the prior art references teach or suggest all the claim limitations. M.P.E.P. §2143.03; *In re Royka*, 180 U.S.P.Q. 580 (CCPA 1974). The teachings, suggestions, and reasonable

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expectations of success must be found in the prior art, rather than in Applicant's

disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (CAFC 1991). Applicant respectfully

submits that a *prima facie* case of obviousness has not been met because the Examiner's

rejection fails on at least two of the above requirements.

First, Applicant notes that the Cox. reference fails to teach or suggest all the claim

limitations of independent claims. In particular, independent claim 1 recites running one

or more tests on the mix design using computer controlled equipment; digitally collecting

data for each run using the computer controlled equipment; and selecting an optimum

mix based on the collected data. The specifics of running one or more tests on the mix

design using a gyratory compactor; digitally collecting data for each gyration from the

gyratory compactor are not reasonably taught or suggested in the cited art reference.

Similarly, as to claim 11, the is no showing of the specifics of a computer coupled to the

gyratory compactor, the computer having computer readable code to estimate volumetric

properties for one or more mix designs; run one or more tests on the mix design using the

gyratory compactor; digitally collect data for each gyration from the gyratory compactor;

and select an optimum mix based on the gyration data.

Secondly, Applicant notes that no motivation or suggestion, either in the cited art

reference or in the knowledge generally available to one of ordinary skill in the art, has

been cited by the Examiner to modify the Cox reference so as to produce the claimed

invention. Further, Applicant fails to identify any motivation to modify the reference

teaching so as provide running one or more tests on the mix design using a gyratory

compactor; digitally collecting data for each gyration from the gyratory compactor; and

selecting an optimum mix based on the gyration data as presently claimed.

Applicant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under <u>no</u> obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to <u>any</u> evidence in Cox, or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference teaching so as to produce the claimed invention of claim 1 and 11 of running one or more tests on the mix design using a gyratory compactor; digitally collecting data for each gyration from the gyratory compactor; and selecting an optimum mix based on the gyration data. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Martinez et al. reference, or knowledge of those skilled in the art, , *prima facie* obviousness of the independent claims (and those dependent therefrom) has not been established. As such, it is respectfully requested that the § 103(a) rejection of all claims be withdrawn and the claims be allowed.
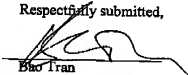
CONCLUSION

Applicant believes that the above discussion is fully responsive to all grounds of rejection set for the in the Final Office Action dated June 10, 2005.

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If for any reasons the Examiner believes a telephone conference would in any way expedite resolution of the issues raised in this appeal, the Examiner is invited to telephone the undersigned at 408-528-7490.

Respectfully submitted,

By: _____

Bao Tran

Reg. No. 37,955

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